

September 25, 2015

MARK PEACOCK
DUKE ENERGY EDWARDSPOINT IGCC
15424 E. STATE ROAD 358
Edwardsport, IN 47528

RE: Project: GW Treatment Profile
Pace Project No.: 50128024

Dear MARK PEACOCK:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kenneth Hunt
kenneth.hunt@pacelabs.com
Project Manager

Enclosures

cc: RANDY MONK, DUKE ENERGY EDWARDSPOINT IGCC
Mr. Rhett Moody, Duke Energy (Edwardsport Generating
Station)
BRITTANY SCHOFIELD, DUKE ENERGY
EDWARDSPOINT IGCC



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: GW Treatment Profile

Pace Project No.: 50128024

Indiana Certification IDs

7726 Moller Road, Indianapolis, IN 46268

Illinois Certification #: 200074

Indiana Certification #: C-49-06

Kansas Certification #: E-10177

Kentucky UST Certification #: 0042

Kentucky WW Certification #: 98019

Louisiana Certification #: 04076

Ohio VAP Certification #: CL-0065

Oklahoma Certification #: 2014-148

Texas Certification #: T104704355-15-9

West Virginia Certification #: 330

Wisconsin Certification #: 999788130

USDA Soil Permit #: P330-10-00128

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SAMPLE SUMMARY

Project: GW Treatment Profile

Pace Project No.: 50128024

Lab ID	Sample ID	Matrix	Date Collected	Date Received
50128024001	FW :55 20150915-031	Water	09/15/15 08:00	09/18/15 08:16
50128024002	GW-IN PROC :16 20150915-032	Water	09/15/15 08:00	09/18/15 08:16
50128024003	GW-INFLUENT :16 20150915-033	Water	09/15/15 08:00	09/18/15 08:16
50128024004	FW :55 20150917-015	Water	09/17/15 08:00	09/18/15 08:16
50128024005	GW-IN PROC :16 20150917-017	Water	09/17/15 08:00	09/18/15 08:16
50128024006	GW-INFLUENT :16 20150917-016	Water	09/17/15 08:00	09/18/15 08:16

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SAMPLE ANALYTE COUNT

Project: GW Treatment Profile

Pace Project No.: 50128024

Lab ID	Sample ID	Method	Analysts	Analytes Reported
50128024001	FW :55 20150915-031	EPA 200.8	CAW	2
50128024002	GW-IN PROC :16 20150915-032	EPA 200.8	CAW	2
50128024003	GW-INFLUENT :16 20150915-033	EPA 200.8	CAW	2
50128024004	FW :55 20150917-015	EPA 200.8	CAW	2
50128024005	GW-IN PROC :16 20150917-017	EPA 200.8	CAW	2
50128024006	GW-INFLUENT :16 20150917-016	EPA 200.8	CAW	2

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: FW :55 20150915-031		Lab ID: 50128024001		Collected: 09/15/15 08:00		Received: 09/18/15 08:16		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 17:16	7440-38-2	D3	
Selenium	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 17:16	7782-49-2	D3	

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: GW-IN PROC :16 20150915-032		Lab ID: 50128024002		Collected: 09/15/15 08:00	Received: 09/18/15 08:16	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:05	7440-38-2	D3
Selenium	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:05	7782-49-2	D3

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: GW-INFLUENT :16		Lab ID: 50128024003	Collected: 09/15/15 08:00	Received: 09/18/15 08:16	Matrix: Water			
20150915-033								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	0.12	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:09	7440-38-2	
Selenium	0.32	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:09	7782-49-2	

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: FW :55 20150917-015		Lab ID: 50128024004		Collected: 09/17/15 08:00		Received: 09/18/15 08:16		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:13	7440-38-2	D3	
Selenium	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:13	7782-49-2	D3	

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: GW-IN PROC :16 20150917-017		Lab ID: 50128024005		Collected: 09/17/15 08:00		Received: 09/18/15 08:16		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Arsenic	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:18	7440-38-2	D3	
Selenium	ND	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:18	7782-49-2	D3	

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ANALYTICAL RESULTS

Project: GW Treatment Profile

Pace Project No.: 50128024

Sample: GW-INFLUENT :16		Lab ID: 50128024006	Collected: 09/17/15 08:00	Received: 09/18/15 08:16	Matrix: Water			
20150917-016								
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic	0.13	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:22	7440-38-2	
Selenium	0.13	mg/L	0.0020	2	09/22/15 09:00	09/24/15 18:22	7782-49-2	

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QUALIFIERS

Project: GW Treatment Profile

Pace Project No.: 50128024

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: GW Treatment Profile

Pace Project No.: 50128024

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
50128024001	FW :55 20150915-031	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990
50128024002	GW-IN PROC :16 20150915-032	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990
50128024003	GW-INFLUENT :16 20150915-033	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990
50128024004	FW :55 20150917-015	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990
50128024005	GW-IN PROC :16 20150917-017	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990
50128024006	GW-INFLUENT :16 20150917-016	EPA 200.8	MPRP/17844	EPA 200.8	ICPM/1990

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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[illegible]

REPLACEMENT NAME AND SIGNATURE

ORIGINAL

PRINT Name of SAMPLER: DIANA REEDY

SIGNATURE of SAMPLER: *[Signature]*

Important Note: By signing this form you are accepting Banc's **NET 30** day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07. 15-May-2007

Sample Condition Upon Receipt

Pace Analytical

Client Name:

Duke Energy

Project #

50128024

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other

Tracking #: 646745406182

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Date/Time 5035A kits placed in freezer

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other

Thermometer 1 2 3 4 5 6 A B C D E F

Type of Ice: Wet Blue None

☐ Samples on ice, cooling process has begun

Cooler Temperature 22.9°C
(Corrected, if applicable)

Ice Visible in Sample Containers: ☐ yes ☒ no

Temp should be above freezing to 6°C

Comments:

Date and Initials of person examining contents: K009-18-15

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sample Labels match COC: -Includes date/time/ID/Analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>No sample date or times on either</u>
All containers needing acid/base pres. have been checked? <small>exceptions: VOA, coliform, TOC, O&G</small>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. (Circle) <u>HNO3</u> H2SO4 NaOH NaOH/ZnAc
All containers needing preservation are found to be in compliance with EPA recommendation (<2, >9, >12) unless otherwise noted.		
Residual Chlorine Check (SVOC 625 Pest/PCB 608)		10. Present Absent
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Headspace TCLP Volatiles	<input type="checkbox"/> Yes <input type="checkbox"/> No	12.
Headspace Wisconsin Sulfide / Acidity	<input type="checkbox"/> Yes <input type="checkbox"/> No	13.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Project Manager Review		
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	16.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	17.

Client Notification/ Resolution:

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution:

Project Manager Review:

Kenneth Hunt

Date: 9/18/15

Sample Container Count

CLIENT: Duke Energy

COC PAGE 1 of 1
COC ID# 1939880

Project # 50178024

Sample Line Item	DG9H	AG1U	WG9U	AG0U	R	4/6	BP2N	BP2U	BP2S	BP3N	BP3U	BP3S	AG3S	AG1H	BP3C	BP1U	SP5T	AG2U	pH <2	pH >9	pH >12
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber vial	AG0U	100mL unpreserved amber glass	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1 liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WG9U	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber glass	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved amber vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	SP5T	120mL Coliform Na Thiosulfate
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber glass	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber glass	AF	Air Filter	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved clear vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear glass	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag